

REMARKS/ARGUMENTS

Claims 1-31 are pending. By this Amendment, claims 11 and 21 are amended, and claims 27-31 have been added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

The drawings were objected to under 37 CFR 1.83(a) as failing to illustrate the nozzle elements, positioning structure, alarm and detents. This objection is respectfully traversed.

At the outset, the positioning structure and detents are shown and described in relation to the embodiment of Figure 20. For example, the vent assembly 300 includes an alignment arrow 312 molded on a shaft 302, whereas each vent 308, 310 has an adjacent indicator 309, 311, molded onto the sleeve 304. The indicators may present a characteristic feel depending on the vent position so that they can be recognized in the dark. Additionally or alternatively, the vent assembly may exhibit a characteristic "click" as its vents are changed as shown in Figure 20. See paragraphs [0091] and [0061] of the original application. Thus, Applicants respectfully submit that the positioning structure and detents are adequately shown in the original application figures.

In addition, while it is appreciated that the Examiner has requested that the nozzle elements, positioning structure along the detents be shown, there is no requirement for such. In particular, Rule 1.83 is particular to the formality requirements of the U.S. Patent and Trademark Office. However, the present application is a Rule 371 application claiming priority to PCT/AU04/01650 filed November 25, 2004. As such, the Patent Office is reminded that the U.S. Patent and Trademark Office must comply with all articles of the PCT including Article 27, holding in short that no National law shall require compliance with requirements relating to the form or contents of the International application different from or additional to those which are

provided for in the PCT and the regulations. See, e.g., *Caterpillar Tractor v. Commissioner*, 231 USPQ 590, 591 (E.D. Va. 1986). The Patent Office has referenced this decision in the Official Gazette dated September 9, 1986 (1070 TMOG 5).

As a consequence, the Patent Office may not object to the drawings as failing to show features set forth in the claims as long as the original submitted documents comply with the PCT requirements. Inasmuch as the specification and drawings were forwarded by WIPO, by definition, they meet the PCT requirements (they are not forwarded until they meet PCT requirements). Therefore, the objection to the drawings is respectfully traversed and reconsideration thereof is respectfully requested.

Claims 15, 16, 25 and 26 were rejected under 35 U.S.C. §112, first paragraph as the specification allegedly does not disclose a way for an alarm to be sounded if the vent assembly is not in the first or second position. This rejection is respectfully traversed. In particular, the original specification provides support for an alarm that is sounded if the vent assembly is not in the first or second position. For example, if the vent is not in the first or second position, an alarm can be created. See paragraph [0061] of the original specification. Also, paragraph [0092] of the specification indicates that when the appropriate vent 352 or 354 is aligned over an orifice, a corresponding resistor 353 or 355 electrically connects a connector 356 which is in electrically communication with the flow generator controller 358. Moreover, assuming that the appropriate vent 352 or 354 is not aligned over the orifice, an alarm may be sounded. See also paragraph [0090] which specifies that the message to the user may be by way of an auditory or visual alarm. In another example, the alarm may be generated if the noise level produced by the selected vent is a predetermined threshold (see claims 16 and 26). The noise level of the alarm can be detected by use of standard sound transducers, e.g., a microphone.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 13, 15, 16, 21, 25 and 26 were rejected under 35 U.S.C. §112, second paragraph.

By this Amendment, claims 11 and 21 are amended for clarity only to replace the term "GORE-TEX™" with its more generic structure, i.e., porous polytetrafluoroethylene (PTFE). According to Wikipedia, Gore-Tex™ is a porous form of PTFE. (See attached Wikipedia publication.) In addition, the Examiner is invited to refer to paragraph [0068] which specifies various materials that can be used to construct the vent assembly, including PTFE materials with small pored vents.

In regard to the rejection of claims 15, 16, 25 and 26, the Examiner is referred to the discussion above in relation to the traversal of the rejection based on 35 U.S.C. §112, first paragraph.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-7, 10, 11 and 17-21 were rejected under 35 U.S.C. §103(a) over Gradon et al. (U.S. Patent No. 6,662,803) in view of Wood (U.S. Patent No. 7,191,781). This rejection is respectfully traversed.

It is noted that the present application was filed under Section 371 based on PCT/AU04/001650 filed November 25, 2004. As such, the December 9, 2004 filing date of U.S. Patent No. 7,191,781 to Wood does not qualify as prior art. In addition, while Wood '781 additionally claims priority to Application No. 10/910,616, filed August 4, 2004 and 10/830,034, filed April 23, 2004, the present application claims priority to U.S. Provisional Application No. 60/524,728, filed November 25, 2003, 60/538,507, filed January 26, 2004 and 60/550,319, filed March 8, 2004, all of which provisional applications predate Woods' parent applications 10/910,616 and 10/830,034.

Applicants also acknowledge that Wood ultimately claims priority to two provisional applications, 60/501,028, filed September 9, 2003 and 60/492,282, filed August 5, 2003. According to the specification of 60/492,282, the dial can be turned in one direction to increase the internal diameter of the exhaust flow, and the other direction decreases the inner diameter in the exhaust flow. Similarly, 60/501,028 specifies that a dial feature may be provided "for increasing or decreasing the exhaust flow which can be tapered to the individual's needs". In addition, the '028 provisional specification indicates that the dial component can increase or decrease the size of the internal diameter of the exhaust port for variable exhaust flow settings.

As such, neither 60/492,282 nor 60/501,028 teaches or discloses a mask assembly or a vent assembly which includes a first vent, a second vent and a selector to switch the flow of exhaled gas from the patient between a first and second vents.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1, 8, 9, 12-14, 17 and 22-24 were rejected under 35 U.S.C. §103(a) over Gradon et al. in view of Bauman (U.S. Patent No. 4,821,713). This rejection is respectfully traversed.

According to the Office Action, Gradon et al. teaches a vent assembly 300 including a first vent 308 with a noise reducing filter and a second vent 310 of smaller size and less flow (per column 5, lines 16-22). However, as described in Gradon et al., Figures 7-9 show an outlet vent 300 which includes a number of apertures 302 which are surrounded by a number of partitions 304 which provide support for a filter cap which is installed over top of the apertures 302. Filter cap in turn includes large vents 307 and auxiliary vents 310. In operation, if the filter medium 308 becomes blocked, exhaust gases can be passed from the inside of the mask through primary vent apertures 302 and subsequently through auxiliary vents 310.

In the Office Action, it is admitted that Gradon et al. does not disclose a selector to switch the flow of exhaled gas from the patient between the first and second vents. In order to make up for this deficiency, the Office Action relies on Bauman which teaches a resuscitator including air bleed means 120 for controlling the amount of air passing to the mask per column 4, lines 53-61.

There is no reason or motivation to modify the device of Gradon et al. to include the air bleed means of Bauman's resuscitator. Specifically, the exhaust in Gradon et al. is defined by the six apertures 302 shown in Figure 7. Whether that exhausted gas is in turn passed through filter and vents 307 or vents 310 does not change the characteristics of the gas which is passed from the breathing chamber and through apertures 302. Moreover, even if venting through vents 307 or 310 does provide different flow characteristics, there is no motivation to selectively allow the gas to pass through vents 307 or vents 310 using a bleed means as taught by Bauman. Gradon et al.'s cap is provided with apertures 307 and 310 for the specific purpose of allowing gas to pass from the apertures 302 to atmosphere even in the event when the apertures 307 are effectively blocked by a clogged filter. Thus, application of Bauman's bleed means would not benefit the nasal mask of Gradon et al. since Gradon et al. has already built in structure to allow for venting through apertures 310. In addition, venting through apertures 310 is significantly noisy such that there would be no motivation to provide Bauman's selector to redirect the gas through the smaller apertures 310. Stated differently, there is no reason to switch between the vents 307 and vents 310 as this would potentially disrupt Gradon et al.'s ability to determine if the filter was clogged. Moreover, diverting gas from aperture 307 to the four apertures 310 using Bauman's bleed means would likely prove difficult given Gradon et al.'s specific vent geometry.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 15, 16, 25 and 26 were rejected under 35 U.S.C. §103(a) over Gradon et al. and Bauman, and further in view of Truschel (U.S. Patent No. 6,536,432). This rejection is respectfully traversed.

Firstly, claims 15, 16, 25 and 26 depend from claims 1 or 17, and are patentable by virtue of that dependency. In addition, Gradon et al. provides smaller apertures 310 for the purposes of increasing the noise to the patient, to alert the patient as to the need to change filter material. See column 5, lines 20-22. Thus, there is no reason or motivation to provide the Gradon et al./Bauman combination with an alarm since Gradon et al. already provides the user with an audible when the filter material is clogged. There is simply no motivation to provide Gradon et al. with an additional alarm, absent impermissible hindsight.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 27-31 are provided for the Examiner's consideration.

In view of the above amendments and remarks, Applicants respectfully submit that all the claims are patentable and that the entire application is in condition for allowance.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140 under Order No. PTB-4398-537.

DARKIN et al.
Appl. No. 10/579,221
July 28, 2009

Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /Paul T. Bowen/
Paul T. Bowen
Reg. No. 38,009

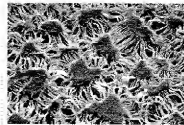
PTB:jck
Attachment:
Wikipedia Publication

901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

Gore-Tex

From Wikipedia, the free encyclopedia

Gore-Tex is a waterproof/breathable fabric, and a registered trademark of W.L. Gore & Associates. It was co-invented by Wilbert L. Gore (1912-1986), Rowena Taylor, and Gore's son, Robert W. Gore. Robert Gore was granted U.S. Patent 3,953,566 on April 27, 1976, for a porous form of polytetrafluoroethylene with a micro-structure characterized by nodes interconnected by fibrils. Robert Gore, Rowena Taylor, and Samuel Allen were granted U.S. Patent 4,194,041 on March 18, 1980 for a "waterproof laminate." For its invention, Robert W. Gore was inducted into the National Inventors Hall of Fame in 2006.



Gore-Tex membrane, electron microphotograph

Contents

- 1 Manufacture
- 2 Design
- 3 Care of Gore-Tex fabric
- 4 Other uses
- 5 Patent Expiration
- 6 See also
- 7 References
- 8 External links

Manufacture

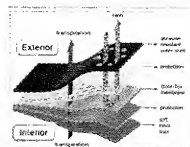
Gore-Tex is manufactured from polytetrafluoroethylene (PTFE). PTFE is made using an emulsion polymerization process that utilizes the fluorosurfactant PFOA,^{[1][2]} a persistent environmental contaminant. As Gore-Tex is PTFE-based, PFOA is used in its production.^[3]

Design

Gore-Tex materials are typically based on thermo-mechanically expanded polytetrafluoroethylene (PTFE) and other fluoropolymer products. They are used in a wide variety of applications such as high performance fabrics, medical implants, filter media, insulation for wires and cables, gaskets, and sealants. However, Gore-Tex is best known for its use in protective, yet breathable, rain wear.

The simplest sort of rain wear is a two layer sandwich. The outer layer is typically nylon or polyester and provides strength. The inner one is polyurethane, aka PU, and provides water resistance, at the cost of breathability.

Early Gore-Tex fabric replaced the inner layer of PU with a thin, porous fluoropolymer membrane (Teflon) with a polyurethane coating that is bonded to a fabric, usually



Schematic diagram of a composite Gore-Tex fabric for outdoor clothing.

nylon or polyester. This membrane had about 9 billion pores per square inch (around 1.4 billion pores per square centimeter), each of which is approximately 1/20,000 the size of a water droplet, making it impenetrable to liquid water while still allowing the smaller sized water vapour molecules to pass through.

However it was found that when used in clothing the exposed Teflon membrane layer was easily damaged, as well as being compromised by exposure to the wearer's own sweat. As a result a third layer was added - a coating of PU on the inside of the fabric to protect the membrane.^[4] This final design has been criticized as offering greatly reduced performance and more marketing benefits than performance ones.^[5]

More recent fabrics such as eVent and Epic avoid the need for this inner PU coating^[6] and have been shown to have higher breathability as a result, while still being rainproof.^[7]

Care of Gore-Tex fabric

- As dirt - and even human sweat - will block the pores that allow Gore-Tex to breathe, clothing that uses it should be kept clean for performance as well as hygiene and appearance reasons.
- Both wear and cleaning will reduce the performance of Gore-Tex clothes by wearing away the Durable Water Repellent (DWR) treatment on the surface of the fabric. The DWR prevents the face fabric from becoming wet and thus reducing breathability. However, the DWR is not responsible for the jacket being waterproof; this is a common misconception, as when the face fabric becomes soaked due to an absence of DWR, there is no breathability and the wearer's sweat will cause condensation to form inside the jacket. This has led people to think that their jacket is leaking even though this is not the case, but the DWR is still crucial to the best performance of any membrane-based waterproof. It can be reinvigorated by tumble drying the garment or ironing on a low setting; if this does not work, re-proofing the garment with a wash-in re-proofer can again add a water repellency to the face fabric.
- A guide to maintaining Gore-Tex fabrics is available.^[8]

Other uses

Gore-Tex requires that all garments made from their material have taping over the seams, to eliminate leaks. Gore's sister product, Windstopper, is similar to Gore-Tex in being windproof and breathable, but (1) has ability to stretch and (2) is not waterproof. Gore-Tex is playing an increasing role in the conservation of illuminated manuscripts.^[9] Gore-Tex is also used to coat long lasting instrument strings, which avoid going dull after extensive use by repelling sweat and grime from the fingers.^[10]

A specially-coated form of Gore-Tex material is the key component of a new fuel cell design of hybrid cars which could make the vehicles more reliable and cheaper to build.^[11]

Patent Expiration

Now that the main Gore-Tex patent has expired, there are several other products on the market with

similar characteristics that use similar technology.^[12]

See also

- Perfluorooctanoic acid
- Extended Cold Weather Clothing System

References

- ↑ Lehmle, HJ (March 2005). "Synthesis of environmentally relevant fluorinated surfactants—a review". *Chemosphere* **58** (11): 1471–96. doi:10.1016/j.chemosphere.2004.11.078. PMID 15694468. http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2587313.
- ↑ Lau C, Anitole K, Hodes C, Lai D, Pfahles-Hutchens A, Seed J (October 2007). "Perfluoroalkyl acids: a review of monitoring and toxicological findings". *Toxicol Sci*. **99** (2): 366–94. doi:10.1093/toxsci/kfm128. PMID 17519394. http://toxsci.oxfordjournals.org/cgi/reprint/99/2/366.pdf.
- ↑ Renner, Rebecca (June 2003). "Concerns over common perfluorinated surfactant". *Environ Sci Technol*. **37** (11): 201A–2A. doi:10.1021/es032467q. PMID 12831000. http://pubs.acs.org/doi/abs/10.1021/es032467q.
- ↑ Rainwear
- ↑ Shopping for waterproof raincoats. - By Seth Stevenson - Slate Magazine
- ↑ FabricLink | Search by Trademark
- ↑ http://www.prolitegear.com/site/xdpy/kb/00029/index.html
- ↑ How To Take Care Of Gore-Tex
- ↑ Singer, Hannah. "The Conservation of Parchment Objects Using Gore-Tex Laminate." *The Paper Conservator* 16, 1992: 40-45.
- ↑ Elixir Guitar Strings: http://www.elixirstrings.com/
- ↑ http://www.monash.edu.au/news/newslines/story/1310 Monash fuels the next generation of Hybrid cars
- ↑ Logue, Victoria. (2005). *Hiking and Backpacking*. Menasha Ridge Press. p 74. ISBN 0897325842. Google books. Retrieved on December 31, 2008.

External links

- Gore website
- Military Gore-Tex
- Gore-Tex and Windstopper fabrics

Retrieved from "http://en.wikipedia.org/wiki/Gore-Tex"

Categories: Technical fabrics | Brand name materials | 1976 introductions

Hidden categories: NPOV disputes from May 2009

- This page was last modified on 18 July 2009 at 22:24.
- Text is available under the Creative Commons Attribution/Share-Alike License; additional terms may apply. See Terms of Use for details. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.